

WHAT IS CLAIMED IS:

1. An optical fiber comprising a core region extending along a predetermined axis and a cladding region provided on the outer periphery of said core region, said core and
5 cladding regions being constituted by at least three layers of glass regions having respective refractive indices different from each other;

said optical fiber substantially insured its single mode with respect to light at a wavelength in use;

10 said optical fiber having, for at least one wavelength in the wavelength band in use, a chromatic dispersion of -83 ps/nm/km or more; and

said optical fiber having a fiber diameter of 140 μ m or more but 200 μ m or less.

15 2. An optical fiber according to claim 1, further comprising a coating layer having a diameter of 260 μ m or less.

20 3. An optical fiber according to claim 2, wherein said coating layer comprises a first layer provided on the outer periphery of said cladding region, and a second layer provided on the outer periphery of said first layer.

4. An optical fiber according to claim 3, wherein said second layer has Young's modulus of 1000 times greater than that of said first layer.

25 5. An optical fiber according to claim 3, wherein said first layer has Young's modulus of 0.01 to 0.2 kgf/mm² at

a temperature of 20 °C, and said second layer has Young's modulus of 10 to 200 kgf/mm² at the temperature of 20 °C.

6. An optical fiber according to claim 2, wherein said coating layer consists of a single layer.

5 7. An optical fiber according to claim 6, wherein said single layer has Young's modulus of 1 to 200 kgf/mm² at a temperature of 20 °C.

8. An optical cable including an optical fiber according to claim 1.

10 9. An optical fiber comprising a core region extending along a predetermined axis and a cladding region provided on the outer periphery of said core region, said core and cladding regions being constituted by at least three layers of glass regions having respective refractive indices
15 different from each other;

 said optical fiber substantially insured its single mode with respect to light at a wavelength in use;

 said optical fiber having a fiber diameter of 140 μ m or more but 200 μ m or less; and

20 said optical fiber having a coating layer with a thickness of 55 μ m or less.

 10. An optical fiber according to claim 9, wherein the thickness of said coating layer is 25 μ m or more.

25 11. An optical fiber according to claim 9, wherein said coating layer comprises a first layer provided on the outer periphery of said cladding region, and a second layer

provided on the outer periphery of said first layer.

12. An optical fiber according to claim 11, wherein said second layer has Young's modulus of 1000 times greater than that of said first layer.

5 13. An optical fiber according to claim 11, wherein said first layer has Young's modulus of 0.01 to 0.2 kgf/mm² at a temperature of 20 °C, and said second layer has Young's modulus of 10 to 200 kgf/mm² at the temperature of 20 °C.

10 14. An optical fiber according to claim 9, wherein said coating layer consists of a single layer.

15 15. An optical fiber according to claim 14, wherein said single layer has Young's modulus of 1 to 200 kgf/mm² at a temperature of 20 °C.

16. An optical cable including an optical fiber according to claim 9.